6. Domača naloga

6.1 Določi definicijsko območje in skiciraj grafe naslednjih funkcij:

$$\begin{aligned} g_1(x) &= 2\sin(2x) \\ g_2(x) &= 3\cos(x-\pi) \\ g_3(x) &= \mathrm{tg}(3x+\pi/4) \\ g_4(x) &= e^{x-2} \\ g_5(x) &= e^{2x+1} \\ g_6(x) &= \log(2x-2) \\ g_7(x) &= \log(2-x) \end{aligned}$$

6.2 Izračunaj naslednje limite.

$$\lim_{x\to 0} \frac{\sin(7x)}{x},$$
$$\lim_{x\to 0} \frac{\sin(7x)\sin(8x)}{x^2},$$
$$\lim_{x\to 0} \frac{\sin(7x)\sin(8x)\sin(9x)}{x^3},$$
$$\lim_{x\to 2} \frac{\sqrt{x^2+2x-2}-\sqrt{x^2+2}}{x-2},$$
$$\lim_{x\to 3} \frac{\sqrt{x^2+3x-3}-\sqrt{x^2+6}}{x-3},$$
$$\lim_{x\to 4} \frac{\sqrt{x^2+2x-4}-\sqrt{x^2+4}}{x-4},$$
$$\lim_{x\to 5} \frac{\sqrt{x^2+3x}-\sqrt{x^2+15}}{x-5},$$
$$\lim_{x\to \infty} \sqrt{x^2+3x-3}-\sqrt{x^2+6},$$
$$\lim_{x\to \infty} \sqrt{x^2+6x}-\sqrt{x^2+3x-8}.$$